

XVI. *On the species of the genus Euchroma.*
By D. SHARP.

[Read July 6th, 1881.]

THE *Buprestide*, known to entomologists under the generic name of *Euchroma*, are amongst the largest and most abundant in collections of exotic Coleoptera; but it is unfortunately only too true that very little trustworthy information is recorded about them. In the Munich Catalogue two species are recognised; and I have received at various times from my friend, the Rev. W. Harper, of Demerara, specimens of what have appeared to myself and other entomologists a third distinct species; this I intended to make known under the name of *Buprestis Harperi*, but as I had noticed that the two recognised species were very variable, or else that there were more than two species, I took the opportunity of procuring from my entomological friends all the specimens they could send me for examination. The result of this has been to convince me that at present there exist only two species in our collections, and that, though both are variable and in some of their varieties greatly resemble one another, yet they are, so far as is yet known, perfectly distinct. I have thought it would be acceptable if I epitomised the results of my observations in the form of short diagnoses of the two species and remarked on the variations they exhibit, and alluded to some other points on which there exists at present but scanty or erroneous information. The two species are the *Buprestis gigantea* of L., and the *B. goliath* of Laporte. There can be no doubt, I think, that the species to which I have assigned the former name was the one intended by Linnæus, and it appears in fact to have been the only one known to the older entomological describers. The *Buprestis goliath* was described by Mannerheim under the name of *Euchroma columbica* very shortly after Laporte and Gory's description had appeared.

The external characters distinctive of the two sexes

are conspicuous, and the following are common to the two species:—The males have the middle tibiæ dilated, or slightly knobbed, inwardly at the apex; the prosternum is furnished along the middle with erect dense fine pale pubescence (which is frequently more or less rubbed off in worn specimens), and this is continued along the middle of the metasternum, where it diverges into two patches, which are continued along the inner margins of the hind coxæ; also the lower (or hind) margins of the femora, as well as the trochanters, are more or less densely pubescent. The fifth ventral segment is longer than the preceding one, but not twice as long, and its hind margin is truncate, and furnished in the middle with a shallow broad angular emargination of somewhat variable shape and size; while in the female this plate is elongate, more than twice as long as the preceding one, and narrowed towards the extremity, where the raised margin is slightly interrupted in the middle by a minute notch, which in some individuals, and more especially in *B. goliath*, extends a good deal forwards. In the male the sides of the eighth dorsal segment are abruptly bent downwards, and thus a small arched notch is formed at the extremity of the segment; in the female the edges of this plate are not depressed, so that it is flat transversely, and does not exhibit any distinct notch (there may be a very slight emargination) at the extremity. In the male there is a large sixth ventral plate concealed within the preceding segment; the hind margin of this plate is cut away in a peculiar asymmetrical manner, the emargination being much larger and deeper on the left side than it is on the right; the seventh ventral plate is, in the male sex, very visible; it is punctate where exposed, and metallic in colour, and deeply impressed on each side of the middle; the dorsal plate attached to this terminal ventral plate consists apparently of two plates united together by a strongly angulate transverse suture; the basal of these two is smooth, polished, and shining, while the terminal one is densely punctate and finely pubescent, and is triangular in form, the apex of the triangle being exposed, though it is quite retractile. The œdeagus is a very simple sublinear body, acuminate at the apex, and consisting of a large dorsal plate, and a small and short ventral plate; this ventral plate is received in the larger dorsal plate, so as to be much concealed, and is membranous at its base,

and at its attachments to the dorsal plate, so that it is capable of elevation and depression at its free extremity. The œdeagus is received in a large corneous sheath, the apical half of which is divided into two elongate separated lobes.

In the female the sixth ventral plate is very large, though it is concealed within the preceding segment; it is densely punctate, and similar in form to the last external (that is the fifth) ventral plate, and, like it, is more or less minutely notched at the extremity. There is no seventh ventral plate in the female. The form of the eighth dorsal plate in the female has been described above; there is a smaller ninth dorsal plate usually completely concealed under this eighth plate, but which can be exerted, and is sometimes visible in dried specimens. The ovipositor is not very large, and, to judge from a cursory examination of its structure, may prove homologous with the œdeagus and its sheath in combination.

Buprestis gigantea, L.

Colore varibilis, semper metallescente; coleopteris fortiter rugulosis, lateribus versus apicem integris, dente subsuturali parum prominulo. Long. 50—70; lat. 19—29 mm.

♂. Abdomine segmento dorsali octavo lateribus deflexis, apice minute arcuato, arcus basi in medio triangulariter prominulo; œdeagi theca utrinque ad apicem setarum penicilla instructa; œdeago subtus usque ad apicem plus minusve distincte sulcato, vel canaliculato.

♀. Abdomine segmento 5° ventrali, apice in medio minute, plus minusve profunde emarginato, emarginatione longitudine quam latitudine brevior.

Buprestis goliath, Cast. et Gory.

Colore variabilis, semper metallescente; coleopteris fortius rugulosis, lateribus versus apicem serratis, dente subsuturali elongato. Long. 50—60; lat. 20—25 mm.

♂. Abdomine segmento 8° dorsali lateribus deflexis, apice minute simpliciter arcuato; œdeagi theca absque setis; œdeago subtus versus apicem nullo modo sulcato.

♀. Abdomine segmento 5° ventrali, apice medio profunde ovaliter emarginato, emarginatione longitudine quam latitudine longiore.

The individuals of both of these species are frequently densely covered with an exudation which has much the appearance of pollen. According to Rojas (Ann. Soc. Ent. Fr. 1857, p. 333) this is, however, a natural secretion, and can be renewed by the insect during its lifetime, especially under the influence of heat.

As regards the distribution of the species: *B. gigantea* occurs in Eastern South America, from Rio de Janeiro to British Guiana; while *B. goliath* is found in Central America and North-Western South America, from Honduras to Bogota. I have not seen any specimens from Venezuela, but according to Rojas (*loc. sup. cit.*) it is the *B. goliath* (*Euchroma columbica*, Mann.) that is found there. H. Deyrolle has sent me word that he possesses a *B. gigantea* from Bogota, but I think this is probably an error, the evidence at present available, with this exception, showing that each of the two species has its own area of distribution, and that they are not found in the same district. Each species varies a good deal, and the variations seem to be to a considerable extent geographical, and it is worthy of remark that that form of *B. gigantea*, which is most different from *B. goliath*, comes from British Guiana, the district which is nearest, geographically, to the area of distribution of *B. goliath*. The variations are of considerable importance, and, so far as they are known to me at present, may be briefly summarised as follows:—

1. *Buprestis gigantea*.—This species is more variable than the other; the form first known to the older authors comes from Cayenne, and may be considered as the typical condition of the species, and is the commonest in collections. The elytra are of a brilliant copper-colour, with the outer margin green, and the sutural region usually more or less green, but this latter point is very variable. The margins of the pronotum are broadly greenish, and but little shining, and along the middle there extends a band of the same colour, so that there is thus left a large patch on each side of darker colour—black or copper-black—and more shining surface; the green portions are densely punctate, the punctuation being of a double character, *viz.*, an extremely fine dense punctuation, and a more sparing and coarser, but still fine, punctuation, and these parts of the thorax bear a fine whitish depressed pubescence, while the discoidal patches are bare and polished, and their punctuation

less dense; the female has, at the apex of the fifth ventral segment, a very slight emargination, a mere interruption of the outline. As the coppery colour of the wing-cases fades away, the form becomes of darker and more obscure colour, and it is, I believe, such dark specimens that are usually found at Rio de Janeiro, and in the females of these dark coloured specimens the minute notch of the fifth ventral segment becomes rather deeper and more definite.

The second form of *B. gigantea* differs from the preceding one in that the discoidal patches of the thorax are very conspicuous, but less shining than in the preceding one, and are surrounded by a very distinct coppery rim, inside the greener margins, and the punctuation of the thorax is a little less fine; the copper colour of the upper surface is very predominant, the general form is a little shorter and broader, and in the female, the notch on the fifth ventral segment is comparatively deep and conspicuous. I have a pair of this form from Pará on the Amazons, and a specimen sent me by H. Deyrolle with the locality Bogota (which is, however, I believe, incorrect). M. Deyrolle informed me that he had four other perfectly similar individuals of this form, and suggested that they were hybrids between *B. gigantea* and *B. goliath*. Although this form is that which in appearance and sculpture most resembles *B. goliath*, I see no reason at all to suppose the slight approximation to be the result of hybridisation, for in the more important characters there is no approach made to *B. goliath*.

The third form is remarkable by its colour, and by the very indefinite, almost entirely absent, discoidal patches of the prothorax; the colour is dark, but changes a good deal, according to the direction in which the specimen is viewed, from a dark purplish copper to a dark green. The upper surface of the prothorax is very polished and shining, and the punctuation is very much reduced, and there is little or no pubescence; on careful examination, however, the marginal punctuation is clearly seen to be present. The notch at the apex of the fifth ventral segment in the female is broad and shallow. This is the form that is most dissimilar from *B. goliath*, and it has been sent in numbers from Georgetown, Demerara, by the Rev. W. Harper. It is not, however, the only variety found in Demerara. The native Indians of that part of

America use the wing-cases of this large beetle for ornament, piercing them with a hole at the humeral angle, and threading them so as to form anklets and arinklets; on examining elytra taken from such an anklet, sent by Mr. Harper to the Museum at Thornhill, I find that the wing-cases have apparently been taken from the typical form of the species such as is found at Cayenne. Although, on account of its polished thorax and dark colour, this form appears very distinct at first sight, yet it varies somewhat towards the dark varieties of the typical form, and I have no doubt specimens may be found completely connecting the two. It is worthy of remark that in this form, owing perhaps to the diminution of sculpture, the head between the eyes is traversed by a quite distinct, acutely angulate transverse suture. This is all the more important, as Lacordaire has declared (*Gen. Col. iv.*, p. 4, *note 1*), that "in the *Buprestidae*, as in all the *Sternocori*, without any exception, the epistome is never separated from the front by a distinct suture."

Buprestis gigantea shows numerous variations in the extent of the sculpture on the ventral segments, but this seems to be a less constant character than those I have mentioned above, except that in the third form the sculpture and pubescence on the ventral segment is always more diminished than in the other forms. In all specimens of the species the ventral segments are densely punctate at the base on each side, and the punctate portions bear a very fine pubescence; these patches of sculpture extend inwards, and so become more or less distinctly united to form a band across the base of each plate, and they also have a greater or less extension towards the hind margin of each segment.

2. *Buprestis goliath*. — According to the specimens before me, this species varies much in colour, somewhat in sculpture, and a little in the form and depth of the notch of the fifth ventral segment. The discoidal patches of dark colour are very distinct, and are dull, but in some of the more brilliantly coloured examples become slightly shining; these patches are always surrounded with a ring of coppery colour, which sometimes extends to the edges of the thorax, but in other cases shades off into green. In one individual from Chontales, the colour of all the upper surface is nearly black, and the metallic colour surrounding the discoidal

patches is obscure. The usual colour of the wing-cases is obscure brassy or coppery, the outer margin being more metallic than the other parts; some individuals become of a brilliant copper colour. The ventral sculpture and pubescence is always largely developed, and exhibits but little variation. The notch on the fifth ventral segment of the female is always deep and very conspicuous, but it varies considerably in size, and more particularly in width; the angles at its hind margin are always acute, and tend to meet one another, but in some individuals are considerably more approximate than in others. The apex of the eighth dorsal plate in this sex is in this species always emarginate, but in some cases the emargination is very slight, while in others it is, though small, very distinct. So far as the material before me will enable me to judge, these variations are not geographical.